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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,160	12/29/2000	Merle L. Miller	2069.008400	8960

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HOUSTON, TX 77042

EXAMINER
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HAROLD, JEFFEREY F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/752,160

Applicant(s)

MILLER ET AL.

Examiner

Jefferey F. Harold

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12/20/00
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,10,12-14,16,17,19,20,22 and 23 is/are rejected.
- 7) ☒ Claim(s) 8,11,15,18 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. **Claim 3** is objected to because of the following informalities: The limitation "the signal" lacks antecedent bases, for the purpose of the rejection recited below the examiner assumes the limitation to be "the digital signal". Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-7, 9, 10,12-14, 16, 17, 19, 20, 22 and 23** are rejected under 35 U.S.C. 102(b) as being anticipated by Zhou et al (United States Patent 5,878,133), hereinafter referenced as Zhou.

Regarding **claim 1**, Zhou discloses a digital direct current feed control for a communication system. In addition, Zhou discloses a process for DC feed control for a line card, consisting of:

using an analog-to-digital converter (52) for processing voice signals, as disclosed at column 6, lines 23-38 and exhibited in figure 1;

receiving a signal from a subscriber line, as disclosed at column 6, lines 23-38 and exhibited in figure 1;

converting the signal to a digital signal using the analog-to-digital converter utilized for processing voice signal, as disclosed at column 6, lines 23-38 and exhibited in figure 1;

adjusting the digital control circuit (50), which reads on claimed "DC feed control", of line card based on the digital signal, as disclosed at column 6, lines 27-38 and exhibited in figure 1.

Regarding **claim 2**, Zhou discloses everything claimed as applied above (see claim 1), in addition Zhou discloses wherein adjusting the digital control circuit (50) includes:

integrating the digital signal, as disclosed at column 6, lines 56-65 and exhibited in figures 1-3;

adjusting a voltage provided to the subscriber line based on the integrated signal, as disclosed at column 6, line 47-54; column 6 line 61 through column 8, line 52 and exhibited figures 1-3;

Regarding **claim 3**, Zhou discloses everything claimed as applied above (see claim 2) in addition Zhou discloses wherein the digital signal is inherently a DC signal, since the signal is received from the battery feed circuit (38) as, disclosed at column 6, lines 9-38 and exhibited in figures 1-3.

Regarding **claim 4**, Zhou discloses everything claimed as applied above (see claim 2) in addition Zhou discloses wherein the digital signal is representative of a current flowing from the subscriber line, as disclosed at column 6, lines 23-38 and exhibited in figures 1-3.

Regarding **claim 5**, Zhou discloses a process for DC feed control for a line card, consisting of:

determining if the line card is operating in a current limit region of a DC feed curve, as disclosed at column 6, lines 38-54 and exhibited in figures 2 and 3;

synthesizing a curve in the current limit region, as disclosed at column 5, line 54 through column 6, line 8 and exhibited in figure 2;

determining the loop voltage based on the synthesis curve, as disclosed at column 6, lines 9-21 and exhibited in figure 2;

applying the loop voltage to the subscriber line, as disclosed at column 6, lines 9-38 and exhibited in figure 2.

Regarding **claim 6**, Zhou discloses everything claimed as applied above (see claim 5), in addition Zhou discloses a process wherein determining if the line card is operating in the current limit region includes:

generating a current value proportional to a loop current flowing from the subscriber line, as disclosed at column 6, line 9-38 and exhibited in figure 3;

determining if the line card is operating in the current limit region of the DC feed curve in response to generating the current value, as disclosed at column 6, line 9-64 and exhibited in figure 2.

Regarding **claim 7**, Zhou discloses everything claimed as applied above (see claim 6), in addition Zhou discloses wherein determining if the line card is operating in the current limit region of the DC feed curve in response to generating the current value

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includes determining if the loop current is greater than the first preselected value as disclosed at column 6, line 46 through column 8, line 51 and exhibited in figures 2 and 3.

Regarding **claims 9, 10, 12-14, 16, 17, 19, 20, 22 and 23**, Zhou discloses everything claimed. In addition claims 9, 10, 12-14, 16, 17, 19, 20, 22 and 23 are interpreted and thus rejected for the reasons set forth above in the rejection of claims 1-7.

***Allowable Subject Matter***

3. ***Claims 8, 11, 15, 18 and 21*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jefferey F. Harold whose telephone number is (703) 306-5836. The examiner can normally be reached on Monday-Friday 9:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4800.



JFH  
December 8, 2003

  
**XU MEI**  
**PRIMARY EXAMINER**